

REMARKS

This Response is in reply to the Office Action mailed February 27, 2009. Claims 47, 69, and 112-133 were pending in the application with each of the claims being rejected.

Claim 129 was objected to because lines 4 and 6 each included misspellings. The claim has been amended to make these corrections. Claim 115 has also been amended to correctly spell the term "biasing".

Claims 112-133 were rejected under 35 USC 112, 1st paragraph. Claims 112, 115, 122 and 129 have been amended to overcome these objections. Claim 127 has been cancelled.

Claim 112-133 were rejected under 35 USC 112, 2nd paragraph. Claims 112, 115, 122, and 129 were amended to overcome these rejections.

Claims 115, 122, and 129 have each been amended to include antecedent basis for the terms "topmost layer", "topmost cell", and "bottom layer". These amendments were not done in view of any prior art and should not affect the scope of the claims.

Claims 47 and 69 have been amended to include antecedent basis for the terms "top layer", "top cell", and "bottom layer". Claim 47 has also been amended to change the antecedent basis for the semiconductor body. These amendments were not done in view of any prior art and should not affect the scope of the claims.

Claims 115, 117-120, 129 and 132 were rejected under 35 USC 102(e) as being anticipated by US Patent No. 6,635,507 (hereinafter Boutros). The Office Action cites to Figure 8 of Boutros and equates solar cell 804 as the claimed first region, solar cell 806 as the claimed second region, and bypass diode 810 as the claimed bypass diode.

Claim 115 includes that a topmost layer of a topmost cell of a first region has a first polarity and a bottom layer of a bypass diode of a second region has the same first polarity. Boutros discloses that the topmost layer of the topmost cell of the second region, identified as solar cell 806, includes a different polarity than a bottom layer of the bypass diode, identified as

bypass diode 810. Mainly, the topmost layer of the cell 806 of Boutros is a heavily doped n-type GaAs layer. The bottom layer of the bypass diode 810 of Boutros is a p-type GaInP layer.

Claim 115 also includes that the first region and the second region have an identical sequence of semiconductor layers. The first solar cell 804 of Boutros equated in the Office Action as the claimed first region does not include an identical sequence of semiconductor layers as the second solar cell 806 equated in the Office Action as the second region.

Claim 115 further includes that the sequence of layers of material forms a plurality of cells of a multijunction solar cell in the first region. The cell 804 of Boutros equated in the Office Action as the claimed first region only forms a single cell.

For at least these reasons, independent claim 115 and dependent claims 117-120 are not anticipated by Boutros.

Claim 129 includes a topmost layer of a topmost cell of a first region has a first polarity and a bottom layer of a bypass diode of a second region has the same first polarity. Boutros does not disclose this aspect as the topmost layer of the topmost cell of the solar cell 806 includes a different polarity than the bottom layer of the bypass diode 810.

Claim 129 also includes that the first region and the second region have an identical sequence of semiconductor layers. Solar cell 804 identified in the Office Action as the first region includes a different sequence of semiconductor layers than solar cell 806 identified in the Office Action as the second region.

Claim 129 further includes that the first region in which a lower portion of the sequence of layers of semiconductor materials forms a multijunction solar cell. The cell 804 of Boutros equated in the Office Action as the claimed first region only forms a single cell.

For at least these reasons, independent claim 129 and dependent claim 132 are not anticipated by Boutros.

Claims 115-133 were rejected under 35 USC 102(b) as being anticipated by WO 99/62125 (hereinafter Ho). The Office Action cites to the embodiment of Figure 14B of Ho and equates the claimed first region as the section of Figure 14B of Boutros to the left of the trench 1438. Ho appears to disclose that this region includes a pair of solar cells. A first cell includes layers 1412, 1414, and 1416, and a second cell includes layers 1422, 1424, and 1426. The Office Action further equates the tunnel diode layers to the right of the trench 1438 as the claimed bypass diode. However, this is not an accurate interpretation as Ho clearly identifies the bypass diode as element 1410 that includes layers 1412-1420 (page 8, lines 6-12). The interpretation of the Office Action that just the tunnel diode layers form the bypass diode is inconsistent with the disclosure of Ho, and inconsistent with an understanding of a bypass diode of one of ordinary skill in the art. With a proper interpretation of what actually is the bypass diode, Figure 14B plainly shows that layer 1412 (GaAs Base/Buffer) forms the bottom layer of the bypass diode, and that this layer has an n-type polarity.

Each of independent claims 115, 122, and 129 include a topmost layer of a topmost cell has a first polarity and a bottom layer of a bypass diode has the same first polarity. Using the embodiment of Figure 14B cited in the Office Action, Ho does not meet these limitations. Ho discloses that the topmost layer of each cell (layer 1416 or layer 1426) has a p-type polarity. Ho also discloses layer 1412 as the bottom layer of the bypass diode. Layer 1412 has an n-type polarity.

The Office Action appears to equate layer 1402 as the claimed topmost layer of the topmost cell of a multijunction solar cell. However, this is incorrect. Layer 1402 is a substrate (page 8, lines 10-11).

For at least these reasons, independent claim 115 and dependent claims 116-121 are not made obvious by Ho.

Claims 121 and 130 were rejected under 35 USC 103(a) as being obvious over Boutros and Ho. Claim 121 depends from independent claim 115 and is not made obvious for at least the same reasons as independent claim 115. Claim 130 depends from independent claim 129 and is not made obvious for at least the same reasons as independent claim 129.

Claims 47, 69, and 112-133 were rejected on the grounds of nonstatutory obviousness-type double patenting over claims 1-44 of US Patent No. 7,115,811. This rejection will be addressed after the indication of allowable subject matter in the present application.

Claims 47, 69, and 112-133 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 48-66, 68-80, and 82-98 of copending Application No. 10/723,456. This rejection will be addressed after the indication of allowable subject matter in the present application.

Claims 47, 69, and 112-133 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-12 of copending Application No. 11/247,828. This rejection will be addressed after the indication of allowable subject matter in the present application.

Claims 47, 69, and 112-133 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting over claims 1-19 of copending Application No. 11/280,379. This rejection will be addressed after the indication of allowable subject matter in the present application.

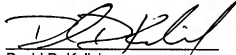
Claims 47, 69, and 112-133 were provisionally rejected on the ground of non-statutory obviousness-type double patenting over claims 15-20 of copending Application No. 11/614,332. This rejection will be addressed after the indication of allowable subject matter in the present application.

The Examiner's attention is directed to co-pending Application No. 11/058,595, and all pending prosecution and references cited in the prosecution history.

In view of the above amendments and remarks, the Applicants submit the present application is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'D. Kalish', is written over a horizontal line.

Dated: May 14, 2009

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